Rice University
Department of Psychology

PSYC 409/609: Methods in HCI Spring 2014

MWF 11-11:50, SH 303

Instructor

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Office Hours Monday and Wednesday 2-3, or by appointment

Required Texts:

Goodman, E., Kuniavsky, M. & Moed, A. (2012). *Observing the User Experience, second edition* San Francisco, CA: Morgan Kaufmann

Recommended Texts

Nemeth, C.P. (2004). *Human Factors Methods for Design: Making Systems Human-Centered*. NY: CRC Press (Available as an online resource at Fondren)

Stanton, N.A., Slamon, P.M., Walker, G.H., Baber, C and Jenkins, D.P. (2005). *Human Factors Methods: A Practical guide for engineering and design*. Burlington, VT: Ashgate. (available in my office for review)

Date	Lecture	Topic	Readings
1/13	1	Introductions, Class logistics and the 8 Basic Principles of Design	OTUE Chapter 1 OS: Clothing the naked emperor
1/15	2	The Development Process	OTUE Chapter 3
1/17	3	Specifying the design	
1/20		***No class – MLK Day***	
1/22	4	Systems and development	
1/24	5	What influences development?	OTUE Chapter 4 pp47-57
1/27	6	A peek ahead: thinking about development	
1/29	7	Choosing a method	OS: A survey of UCD design practice OTUE Chapter 4, pp55-72
1/31	8	Defining your User	OTUE Chapter 17 pp 482-501 OTUE Chapter 6
2/3	9	Cross cultural methods for design	OTUE 13

2/5		**Project Kick-off** Project team formations	
2/7		**Exam 1**	Lectures 1-9
2/10	10	Analysis Methods 1 Pareto Analysis, Operational Analysis, Analysis of similar systems	OTUE Chapter 5
2/12	11	Analysis Methods 2 *Activity analysis. Verbal protocol analysis,* *Critical incident analysis* ***(Exercise)***	
2/14	12	Analysis Methods 3 *Mgmt. Oversight and Risk Tree Analysis (MORT),* *Error Analysis, Root Cause Analysis*	
2/17	13	Design Guidance Methods 1 *Flow analysis* ***(Exercise)***	OTUE Chapter 15
2/19	14	Design Guidance Methods 2 *Link analysis* ***(Exercise)***	
2/21	15	Design Guidance Methods 3 *Time Line analysis, Function Allocation*	
2/24	16	Design Guidance Methods 4 *Task Analysis* ***(Exercise)***	OTUE Chapter 17 pp 501-530
2/26	17	Design Guidance Methods 5 *Cognitive task analysis GOMS* ***(Exercise)***	OS: KLM GOM OS: GOMS review
2/28	18	Design Guidance Methods 5 *Cognitive Walk Through*	OS: Cognitive Jogthough OS: Streamlined Cognitive walkthrough
3/3		***No Class – Spring Break***	
3/5		***No Class – Spring Break***	
3/7		***No Class – Spring Break***	
3/10	19	Design Guidance Methods 6 *Card Sorting*	OTUE Chapter 8
3/12	20	Evaluation methods 1 *Ethnography*	OTUE Chapter 9 OS: Rapid Ethnography
3/14		**Exam 2**	Lectures 10-20
3/17	21	Evaluation methods 3 *Workload assessment*	
3/19	22	Evaluation methods 2 *Prototypes, Simulation*	
3/21	23	Evaluation Methods 4 *Eye Tracking, Biometrics*	
3/24	24	Surveys and questionnaires *Constructed surveys*	OTUE Chapter 12
3/26	25	Surveys and questionnaires *Standardized surveys*	

3/28	26	Interviews	OTUE Chapter 7
3/31	27	Remote data collection: logs and telemetry	OTUE Chapter 10 & 16
4/2	28	Usability Assessment 1	OTUE Chapter 2 & 11 OS: Comparative Usability Evaluation
4/4		***No Class – Mid-term Recess***	
4/7	29	Usability Assessment 2 ***(Exercise)***	
4/9	30	Usability Assessment 3 ***(Exercise)***	OS: ISO9241-11
4/11	31	Cost justifying Usability	OS: Designs return on investment
4/14	32	Reporting your results: ANSI/NCITS 354 and Getting your results implemented	OTUE Chapter 18 OS: Common Industry Format
4/16		Graduate Student Presentations	
4/18		**Exam 3**	Lectures 21-32
4/21		Project Presentations	
4/23		Project Presentations	
4/25		Project Presentations Team Papers Due	

Examinations: There will be 3 examinations. The 3 in class exams will be closed book/closed note and may cover any of the material assigned up to that point. This includes material from *Observing the User Experience,* my lecture notes, the supplemental reading material, class exercises, class demonstrations and presentations that other students have given.

Presentations*: 609 ONLY* Each student enrolled in 609 will be required to give 1 presentation during the course of a case study of the **interesting application or extension** of one of the methods we discuss. These presentations will be 20 minutes long, and the student is expected to describe the implementation of the method, the difficulties that were encountered, any modifications made to the method and the results of the analysis. See me in the first few weeks of the semester to select a topic.

Project: Each student will be part of a project team (3 students/team) that will develop and evaluate a human-machine system. The exact system(s) will be described on February 5th. As part of the project each team will need to:

1) Perform a literature review on the potential system and problem.
2) Based on the application of the methods, develop an optimal potential design. The proposed design should be detailed with mock-ups, sketches, prototypes, drawings etc and backed up by data from your methods section. A Physical mockup is required.
3) Perform one or more empirical evaluations of the system.
4) Prepare a team report on the findings (~20 pages)
5) Present the project to the class in a 12 minute presentation at the end of the semester.

Participation: A good deal of this class will entail open discussions of human factors methods, as well as in class exercises that demonstrate the application of the methods. Active, thoughtful participation is expected from every student. Since most of the activities will take place in class, it is strongly suggested that you attend! Since it is difficult to measure 'participation' I will use the completion of specific class exercises as a proxy. These are detailed in the evaluation section, and noted on the syllabus as **(Exercise)**. NO LATE OR POST MAKEUP EXERCISES will be accepted. If you need to miss a class, see me beforehand to arrange turning in the assignment.

Evaluation:

Exams 1,2,3:	20% each
Project:	25%
Presentations/participation:	15%

* Undergraduates: 7 hand in exercises @ 2% each, 1% overall participation
* Graduates: 7 hand in exercises at 1.5 points each, presentation @ 4.5%

Disabilities:
If you have a documented disability that requires accommodation, please let me know so we can confidentially discuss your needs. You will also need to register with the Disability Support Services Office in the Ley Student Center.

Honor System Policy:
As with all endeavors at Rice, you are expected to adhere to the Honor Code and follow the guidelines given in the Blue Book. Exams are given under the honor system. Students are encouraged to work collaboratively on the projects, but each student is expected to contribute an equal share to the final project. In class exercises are collaborative, and students are expected to work with the rest of the class, unless otherwise noted. Students are encouraged to bring any concerns involving academic integrity to the attention of the instructor.